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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,985	03/26/2004	Chung-Chieh Fang	24061.106 (TSMC2003.0551)	9614
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EXAMINER BAIRD, EDWARD J				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/809,985	Applicant(s) FANG, CHUNG-CHIEH	
	Examiner Ed Baird	Art Unit 3693	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>26 March 2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-25 are pending in this application. Claims 1-25 are rejected under 35 U.S.C. 112, 102 (b), and 103.

Drawings

1. The drawings are objected to Figures 1-6 appear to be labeled incorrectly. The label on the top of each drawing states: "SEMICONDUCTOR MANUFACTURING CAPACITY FEATURES EXCHANGE SYSTEM" whereas the drawings should be labeled: "SEMICONDUCTOR MANUFACTURING CAPACITY FUTURES EXCHANGE SYSTEM".
Appropriate correction is required.

Specification

2. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. **Claim 25 is** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim violates the infringement rule in that one can infringe on the dependent claim (the system described in claim 25) while not infringing on the independent claim (the

method described in claim 24). For the purposes of interpretation, Examiner interprets claims to read as: "The method of claim 24 wherein . . .". Appropriate correction is required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Regarding **claim 2**: Examiner finds this claim to lack a tangible result. The system must produce a real-world result. The claim states, "wherein the information includes capacity contracts. . ." In this claim, the result is a contract or agreement and Examiner does not find result as tangible.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 4, 6, 9-12, 15-21, 24 and 25 are rejected under 35 U.S.C. 102 (b) as being anticipated by **Nafeh et al** (US Patent No. 2002/0069155).

9. Regarding claim 1: **Nafeh** teaches:

- a virtual semiconductor fabrication facility (virtual fab) which provides information regarding fabrication of semiconductor devices in the virtual fab; and

- a semiconductor futures exchange coupled to the virtual fab to receive the information, the semiconductor futures exchange offering semiconductor futures for sale based on the information.

Nafeh discloses method, apparatus, and design innovations as applied to futures securities and the notion of different types of futures contracts tailored to specific clientele [Abstract]. **Nafeh** discloses that a number of instruments have developed which allows people to "hedge their bets" in the face of risk [0002], insurance being a classic example of a hedge instrument. He continues to disclose that a futures market can exist for anything, functioning as a market where bets can be placed on the course of the price or index that defines that market. Examiner notes although **Nafeh** does not specifically disclose a futures exchange here for semiconductors, a semiconductor futures exchange can be included as one of these markets.

Nafeh applies his invention to Type III ("Firm-Issue" and "Intra-Industry ") Contracts which are custom-tailored contracts designed in consultation with industry and firm partners [0337 and 0338]. They are designed to enable one or more firms within one or more specific industries to manage and/or share risks. Relative to Type III contracts, a **Market Authority** acts as a firm's investment banker, and help the firm design, market, and sell (IPO) its hedging instruments into the thus created market or set up an internal firm-specific or intra-industry futures markets for (1) supply chain management or (2) risk-sharing management [0341]. Such contracts include those for advance purchase orders on any product, cash amount, or service with an established quality that are tradable between pre-qualified traders [0344]. In turn, **Nafeh** cites semiconductor chips as examples of underlying products to which Type III contracts may be applied [0344]. Examiner interprets **Market Authority** as Applicant's virtual fab.

10. Regarding **claim 2**, **Nafeh** teaches including “capacity contracts for the right to utilize manufacturing capacity”. Examiner interprets advance purchase orders [0344], as discussed above, as Applicant’s capacity contracts.

11. Regarding **claims 4 and 24**, **Nafeh** teaches “wherein the semiconductor futures exchange is a semiconductor futures capacity exchange”. **Nafeh** discloses that a firm-specific or intra-industry contract is a tradable instrument that pays off at expiry a prespecified [sic] **inventory** item, the inventory item being a commodity or a specific product of manufacture [0347]. Examiner interprets inventory to be equivalent to Applicant’s capacity. Examiner interprets the terms “semiconductor **futures capacity** exchange” (claim 4) and “semiconductor **capacity futures** exchange” (claim 24) as equivalent to each other.

12. Regarding **claim 6**, **Nafeh** teaches: “at least one entity adapted for communicating between a computer system associated with the semiconductor futures exchange and a computer system associated with the virtual semiconductor fabrication facility”. **Nafeh** discloses that the objectives and advantages of his invention include a computer-network based futures trading system, or platform, which is electronically accessible by prospective traders, for enabling transactions related to futures contracts and futures contract bundles [0035].

13. Regarding **claim 9**, **Nafeh** teaches: “at least one entity adapted for communicating between a computer system associated **with an external service provider** and a computer system associated with the semiconductor futures exchange”. **Nafeh** discloses that the objectives and advantages of his invention include a computer-network based futures trading system, or platform, which is electronically accessible by prospective traders, for enabling transactions related to futures contracts and futures contract bundles. Examiner notes that while **Nafeh** does not specifically describe using and a computer system associated external

service provider, external service providers such as DSL are common place at the time of **Nafeh's** invention.

14. Regarding **claims 10, 11, and 12**: **Nafeh** teaches the limitations "wherein the external service provider is a trader". **Nafeh** discloses a "qualified trader" who is authorized to buy or sell, or to make offers to buy or sell for a specific firm-specific and intra-industry contract [0349]. Examiner interprets the qualified trader as the Applicant's external service provider trader whereas the services that he provides include buying and selling (claim 12).

The limitations "wherein the external service provider is an investor (claim 10)" or "a customer (claim 11)" are statements of intended use of the invention. As per MPEP 7.37.09: a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Since the statements of intended use do not further limit the claims, claim 10 and 11 are rejected for the same reasons as claim 12:

15. Regarding **claim 15**: **Nafeh** teaches the limitations "wherein the semiconductor futures exchange interacts with a plurality of traders". **Nafeh** discloses his invention as providing a risk hedging [sic], contract trading system whereby prospective traders can make transactions with low transaction overhead, in real-time, and without any intermediary or broker [0026]. Examiner interprets **prospective traders** as equivalent to Applicant's plurality of traders.

16. **Claim 16** is method of system in claim 1. In addition, Examiner notes that a **Market Authority** acting as a firm's investment banker [0341] as the Applicant's "interacting with the semiconductor futures exchange through the virtual fab to trade semiconductor futures".

17. **Claims 17 and 18** are not further limiting to claim 16, the claim upon which they depend. Examiner notes that purchasing and selling options are inherent functions of a futures exchange.

18. Regarding **claims 19, 20, and 21**: **Nafeh** teaches the limitations "wherein a trader interacts with the futures exchange". **Nafeh** discloses a "qualified trader" who is authorized to buy or sell, or to make offers to buy or sell for a specific firm-specific and intra-industry contract [0349]. Examiner interprets the qualified trader as the Applicant's trader who interacts with the futures exchange (claim 21).

The limitations "wherein a customer (claim 19) or investor (claim 20) interacts with the futures exchange" are statements of intended use of the invention, as discussed in the rejection of claims 10-12.

Since the statements of intended use do not further limit the claims, claim 19 and 20 are rejected for the same reasons as claim 21.

19. Regarding **claim 25**: **Nafeh** teaches the limitations "the semiconductor capacity futures exchange includes a **trade processor** for executing trades". **Nafeh** discloses a "trade engine" 300 [Figure 1 and 7]. Examiner interprets the trade engine as the Applicant's **trade processor** for executing trades.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art

are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 3, 5, 7, 8, 13, 14, 22 and 23 are rejected under 35 U.S.C. 103 (a) as being unpatentable over **Nafeh et al** (US Patent No. 2002/0069155) in view of **Hagen et al** (US Patent No. 6,748,287).

22. Regarding **claim 3**, **Nafeh** does not teach: "the information includes work in progress (WIP) of the virtual semiconductor fabrication facility". However, **Hagen** discloses a work-in-progress (WIP) tracking system is used to coordinate a semiconductor supply chain [Abstract]. The WIP tracking receives WIP updates from semiconductor supply chain vendors and generates advanced notices based on an analysis of the WIP updates and predetermined rules [Abstract].

Therefore, it would have been obvious to a person having an ordinary skill in the art at the time of the invention for **Nafeh** to include WIP tracking as disclosed by **Hagen** so that a user may be able to predict the value of semiconductor futures based on the availability of manufacturing time at different facilities.

23. Regarding **claims 5 and 14**, **Nafeh** does not teach: "the virtual fab includes a semiconductor foundry".

However, **Hagen** discloses in his invention that semiconductor manufacturing process begins at a wafer foundry which generates integrated circuits on raw silicon wafers [column 1, lines 26-30]. He further discloses that successful foundries being part of a supply chain to semiconductor companies [column 1, lines 53-60]. Examiner notes that in order to be part of a supply chain (the foundry), the foundry must be able to provide information regarding fabrication of semiconductor devices (from claim 1); thus the foundry acts as the Applicant's virtual fab.

Therefore, it would have been obvious to a person having an ordinary skill in the art at the time of the invention for **Nafeh** to include foundries supplying information regarding the fabrication of semiconductor devices as taught by **Hagen** so that semiconductor companies benefit by efficiently utilizing their supply chain thus leading to shortened product cycles and enhanced responsiveness to market demand [Hagen, column 1, lines 57-60].

24. Regarding **claim 7**, **Nafeh** does not teach: "a manufacturing executing system used to facilitate production in the virtual semiconductor fabrication facility".

However, **Hagen** claims a method **implemented by computer** for coordinating the manufacture of a semiconductor product by a semiconductor supply chain [Hagen, claim 2]. Examiner notes that Applicant describes his manufacturing execution system (MES) as being an "**integrated computer system** representing the methods and tools used to accomplish production" [Applicant's specification 0025].

Therefore, it would have been obvious to a person having an ordinary skill in the art at the time of the invention for **Nafeh** to include a method **implemented by computer** for coordinating the manufacture of semiconductor products as taught by **Hagen** so that semiconductor companies benefit by efficiently managing their supply chain [Hagen, column 1, lines 57-60].

25. Regarding **claim 8**, **Nafeh** does not teach: "an entity associated with a specific process within the virtual semiconductor fabrication facility".

However, **Hagen** discloses the semiconductor supply chain as possibly including many separate entities, all of which shall be referred to as **vendors** [column 1, lines 37-41]. Examiner interprets vendors as Applicant's entity wherein the supply chain is representative as inclusive of Applicant's "specific process".

Therefore, it would have been obvious to a person having an ordinary skill in the art at the time of the invention for **Nafeh** to include vendors in a semiconductor supply chain as taught by **Hagen** so that semiconductor companies are able to anticipate material and time requirements needed in the fabrication of semiconductor materials.

26. Regarding **claim 13**, **Nafeh** does not teach: "the virtual semiconductor fabrication facility performs a plurality of processes associated with semiconductor fabrication".

However, **Hagen** discloses that a typical semiconductor manufacturing process includes multiple phases, starting with fabricating integrated circuits on raw silicon wafers at a wafer foundry [column 1, lines 26-30]. Examiner interprets fabricating integrated circuits as inclusive of Applicant's plurality of processes associated with semiconductor fabrication.

Therefore, it would have been obvious to a person having an ordinary skill in the art at the time of the invention for **Nafeh** to include fabricating integrated circuits on raw silicon wafers as taught by **Hagen** so that semiconductor companies are able to anticipate material and time requirements needed in the fabrication of semiconductor materials.

27. Regarding **claim 22**, **Nafeh** does not teach: "the virtual fab includes a plurality of entities".

However, **Hagen** discloses the semiconductor supply chain as possibly including many **separate entities**, all of which shall be referred to as vendors [column 1, lines 37-41]. Examiner interprets semiconductor supply chain inclusive of Applicant's virtual fab.

Therefore, it would have been obvious to a person having an ordinary skill in the art at the time of the invention for **Nafeh** to include **separate entities** in a semiconductor supply chain as taught by **Hagen** so that semiconductor companies are able to anticipate material and time requirements needed in the fabrication of semiconductor materials.

28. Regarding **claim 23**, **Nafeh** does not teach: "wherein the semiconductor futures exchange interfaces via the virtual fab with entities internal to and external to the virtual fab".

However, **Hagen** discloses the semiconductor supply chain as possibly including many **separate entities**, all of which shall be referred to as vendors [column 1, lines 37-41].

Examiner interprets **separate entities** as inclusive of Applicant's entities internal to and external to the virtual fab.

Therefore, it would have been obvious to a person having an ordinary skill in the art at the time of the invention for **Nafeh** to include **separate entities** in a semiconductor supply chain as taught by Hagen so that semiconductor companies are able to anticipate material and time requirements needed in the fabrication of semiconductor materials.

Cited Prior Art

29. The prior art of record and not relied upon is considered pertinent to Applicant's disclosure.

- Braddock: Automated Stock Exchange (US Patent No. 4,412,287);
- Chen: Method for monitoring and analyzing manufacturing processes using statistical simulation with single step feedback (US Patent No. 5,966,312);
- Lerner: System and method for physicals commodity trading (USPub. No. 2002/0120555).

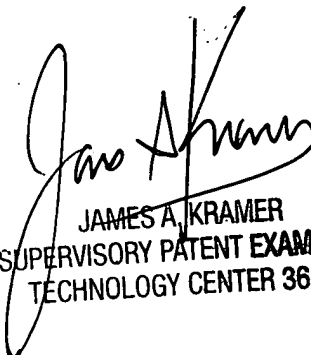
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ed Baird whose telephone number is (571) 270-3330. The examiner can normally be reached on Monday - Thursday 7:30 am - 5:00 pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Kramer can be reached on (571) 272-6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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